

1 WHAT IS CLAIMED IS:

1. An irrigation probe comprising:

a generally rigid probe body comprising:

5 a generally rigid tubular body having proximal and distal ends, wherein the tubular body has at least one irrigation opening at its distal end through which fluid can pass to the inner cavity of the irrigation tube, and

a non-conductive sheath covering the tubular body;

a generally flexible irrigation tube having first and second ends, the irrigation tube defining an inner cavity, wherein the irrigation tube generally forms a loop and at least one end is
10 fixedly attached to the distal end of the probe body, the irrigation tube having at least one irrigation opening through which fluid can pass from the inner cavity to the outside of the irrigation tube;

an electrode comprising a flexible metal ribbon having first and second ends, wherein the metal ribbon is coiled around the irrigation tube to form coils, and wherein space is provided
15 between the coils to allow fluid to pass from the irrigation tube to the outside of the electrode;

a handle mounted to the proximal end of the probe body; and

an infusion tube having proximal and distal ends, wherein the distal end of the infusion tube is in fluid communication with the inner cavity.

20 2. An irrigation probe according to claim 1, wherein the tubular body has an inner diameter ranging from about 0.40 inch to about 0.80 inch and an outer diameter ranging from about 0.50 inch to about 0.90 inch.

3. An irrigation probe according to claim 1, wherein the tubular body is made of a malleable
25 material.

4. An irrigation probe according to claim 1, further comprising a flexible plastic tubing attached to the proximal end of the tubular body for introducing fluid into the tubular body.

30 5. An irrigation probe comprising:

1 a generally rigid probe body comprising:
a tubing having proximal and distal ends and first and second lumens extending
therethrough,
an infusion tube extending at least part of the way through the first lumen of the
5 tubing, and
a stiffening wire having proximal and distal ends, the stiffening wire extending
through the second lumen of the tubing;
a generally flexible irrigation tube having first and second ends, the irrigation tube
defining an inner cavity, wherein the irrigation tube generally forms a loop and at least one end is
10 fixedly attached to the distal end of the probe body, the irrigation tube having at least one
irrigation opening through which fluid can pass from the inner cavity to the outside of the
irrigation tube;
an electrode comprising a flexible metal ribbon having first and second ends, wherein the
metal ribbon is coiled around the irrigation tube to form coils, and wherein space is provided
15 between the coils to allow fluid to pass from the irrigation tube to the outside of the electrode;
and
a handle mounted to the proximal end of the probe body;
wherein the irrigation tube and the electrode are mounted at the distal end of the tubing of the
probe body, and wherein the distal end of the infusion tube of the probe body is in fluid
20 communication with the inner cavity of the irrigation tube.

6. An irrigation probe according to claim 5, wherein the stiffening wire is made of a
malleable material.

25 7. An irrigation probe according to claim 5, wherein the probe body has a length ranging
from about 3.5 inches to about 12 inches.

8. An irrigation probe according to claim 5, wherein the probe body has a length ranging
from about 7 inches to about 8 inches.

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- 1 9. A method for treating atrial fibrillation in a patient comprising:
 opening the heart of the patient; and
 ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in
claim 1.
- 5 10. A method according to claim 9, wherein the tubular body has an inner diameter ranging
 from about 0.40 inch to about 0.80 inch and an outer diameter ranging from about 0.50 inch to
 about 0.90 inch.
- 10 11. A method according to claim 9, wherein the tubular body is made of a malleable material.
12. A method according to claim 9, further comprising a flexible plastic tubing attached to
 the proximal end of the tubular body for introducing fluid into the tubular body.
- 15 13. A method for treating atrial fibrillation in a patient comprising:
 opening the heart of the patient; and
 ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in
claim 5.
- 20 14. A method according to claim 13, wherein the stiffening wire is made of a malleable
 material.
15. A method according to claim 13, wherein the probe body has a length ranging from about
 3.5 inches to about 12 inches.
- 25 16. A method according to claim 13, wherein the probe body has a length ranging from about
 7 inches to about 8 inches.
17. An irrigation probe comprising:
30 a generally rigid probe body comprising:

- 1 a generally rigid tubular body having proximal and distal ends, wherein the tubular body has at least one irrigation opening at its distal end through which fluid can pass to the inner cavity of the irrigation tube, and
a non-conductive sheath covering the tubular body;
 - 5 a generally flexible irrigation tube having first and second ends, the irrigation tube defining an inner cavity, wherein the irrigation tube generally forms a loop and at least one end is fixedly attached to the distal end of the probe body, the irrigation tube having at least one irrigation opening through which fluid can pass from the inner cavity to the outside of the irrigation tube;
 - 10 an electrode comprising a flexible metal ribbon having first and second ends, wherein the metal ribbon is coiled around from about 1% to 100% of the length of the loop formed by the irrigation tube, the metal ribbon forming coils, wherein space is provided between the coils to allow fluid to pass from the irrigation tube to the outside of the electrode;
a handle mounted to the proximal end of the probe body; and
 - 15 an infusion tube having proximal and distal ends, wherein the distal end of the infusion tube is in fluid communication with the inner cavity.
18. An irrigation probe according to claim 17, wherein the metal ribbon electrode is coiled around from about 20% to about 80% of the length of the loop formed by the irrigation tube.
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19. An irrigation probe according to claim 17, wherein the metal ribbon electrode is coiled around from about 40% to about 60% of the length of the loop formed by the irrigation tube.
20. An irrigation probe according to claim 17, wherein both ends of the irrigation tube are
- 25 fixedly attached to the distal end of the probe body.
21. An irrigation probe according to claim 20, wherein the first end of the irrigation tube is fixedly attached to a first position on the distal end of the probe body, and the second end of the irrigation tube is fixedly attached to a second position, different from the first position, on the
- 30 distal end of the probe body.

- 1 22. An irrigation probe comprising:
 a generally rigid probe body comprising:
 a tubing having proximal and distal ends and first and second lumens extending
therethrough,
5 an infusion tube extending at least part of the way through the first lumen of the
tubing, and
 a stiffening wire having proximal and distal ends, the stiffening wire extending
through the second lumen of the tubing;
 a generally flexible irrigation tube having first and second ends, the irrigation tube
10 defining an inner cavity, wherein the irrigation tube generally forms a loop and at least one end is
fixedly attached to the distal end of the probe body, the irrigation tube having at least one
irrigation opening through which fluid can pass from the inner cavity to the outside of the
irrigation tube;
 an electrode comprising a flexible metal ribbon having first and second ends, wherein the
15 metal ribbon is coiled around from about 1% to 100% of the length of the loop formed by the
irrigation tube, the metal ribbon forming coils, wherein space is provided between the coils to
allow fluid to pass from the irrigation tube to the outside of the electrode; and
 a handle mounted to the proximal end of the probe body;
wherein the irrigation tube and the electrode are mounted at the distal end of the tubing of the
20 probe body, and wherein the distal end of the infusion tube of the probe body is in fluid
communication with the inner cavity of the irrigation tube.
23. An irrigation probe according to claim 22, wherein the metal ribbon electrode is coiled
around from about 20% to about 80% of the length of the loop formed by the irrigation tube.
- 25 24. An irrigation probe according to claim 22, wherein the metal ribbon electrode is coiled
around from about 40% to about 60% of the length of the loop formed by the irrigation tube.
25. An irrigation probe according to claim 22, wherein the first end of the irrigation tube is
30 fixedly attached to a first position on the distal end of the probe body, and the second end of the

1 irrigation tube is fixedly attached to a second position, different from the first position, on the
distal end of the probe body.

26. An irrigation probe according to claim 1, wherein both ends of the irrigation tube are
5 fixedly attached to the distal end of the probe body.

27. An irrigation probe according to claim 1, wherein both ends of the irrigation tube are
fixedly attached to the distal end of the probe body.

10 28. An irrigation probe according to claim 27, wherein the first end of the irrigation tube is
fixedly attached to a first position on the distal end of the probe body, and the second end of the
irrigation tube is fixedly attached to a second position, different from the first position, on the
distal end of the probe body.

15 29. A method for treating atrial fibrillation in a patient comprising:
opening the heart of the patient; and
ablate at least one linear lesion in the heart tissue using an irrigation probe as recited in
claim 17.

20 30. A method for treating atrial fibrillation in a patient comprising:
opening the heart of the patient, and
ablate at least one linear lesion in the heart tissue using an irrigation probe as recited in
claim 22.

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